Amendments to the Claims

Please amend claims 1, 7, 9, and 28 as set forth below.

Please cancel claims 10, 15, 23, and 24 without prejudice or disclaimer.

Please add new claims 49-52 as presented below.

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently Amended) An adenovirus particle, comprising a heterologous fiber or a portion thereof, whereby ~~binding~~ infectivity of the viral particle to dendritic cells is increased compared to a particle that expresses its native fiber, wherein:

   the adenovirus (Ad) particle, except for the fiber, is from a subgroup C adenovirus; and

   the fiber includes fiber from a subgroup D adenovirus for binding to dendritic cells, wherein the subgroup D adenovirus is selected from the group consisting of adenovirus serotype ~~8, 9, 10, 13, 15, 17, 19a,~~ 19p, ~~20, 22~~-30, ~~32, 33, 36,~~ and 37, ~~38, 39 and 42-49~~.

2. (Original) A particle of claim 1, wherein:

   the fiber is chimeric and comprises an N-terminal portion from a fiber of a subgroup C adenovirus; and

   the N-terminal portion is sufficient to increase incorporation into the particle compared to in its absence.

3. (Original) The particle of claim 1, wherein the fiber is a chimeric fiber that includes a sufficient portion of a subgroup D adenovirus fiber to target dendritic cells.

4. (Previously Presented) The particle of claim 1, wherein the subgroup C virus is adenovirus serotype 5.

5. (Withdrawn) The particle of claim 1, wherein the fiber is further modified to reduce any interaction with CAR.

6. (Previously Presented) The particle of claim 1, wherein the fiber is further modified to reduce any interaction with heparin sulfate proteoglycans (HSP).

7. (Currently Amended) The particle of claim 1, comprising a capsid wherein the capsid includes ~~further~~ one or more modifications to the penton protein of the capsid thereby reducing or eliminating binding to a ~~that alter interaction with~~ α_v integrin binding domain.

8. (Previously Presented) The particle of claim 1, wherein the adenovirus (Ad) particle, except for the fiber, is from a subgroup C adenovirus; and the fiber is from Ad37.

9. (Currently Amended) The particle of claim 8, wherein ~~the Ad37 fiber comprises at least a sufficient number of~~ 16 to 61 contiguous N-terminal amino acids ~~set forth as~~ of SEQ ID NO. 32 are replaced by 16 to 61 contiguous N-terminal amino acids of the native fiber to target the particle to dendritic cells.

Claims 10-13 (Canceled)

14. (Previously Presented) The particle of claim 1, wherein the fiber is chimeric and includes a portion of a subgroup C adenovirus.

15. (Canceled)

16. (Previously Presented) The adenovirus particle of claim 8, wherein the Ad37 fiber is modified by replacing 15, 16 or 17 amino acids from the N-terminal of the Ad37 fiber with 15, 16 or 17 amino acids from the N-terminal of an Ad5 fiber.

17. (Canceled)

18. (Withdrawn) The adenovirus particle of claim 5, wherein the CAR-binding region of the capsid that is modified is on a fiber knob.

19. (Withdrawn) The adenovirus particle of claim 18, wherein the fiber protein further comprises one or more further modifications that reduce or eliminate interaction of the resulting fiber with HSP.

20. (Withdrawn) The adenovirus particle of claim 19, wherein the capsid further comprising a ligand, whereby the particle binds to a receptor for the ligand.

21. (Withdrawn) The adenovirus particle of claim 20, wherein the ligand is included in the knob region of the fiber.

22. (Withdrawn) The adenovirus particle of claim 20, wherein the ligand is inserted into the fiber or it replaces a portion of the fiber.

23. (Canceled)

24. (Canceled)

25. (Previously Presented) An adenovirus particle, comprising a heterologous fiber or a portion thereof, whereby binding of the viral particle to heparin sulfate proteoglycans (HSP) is reduced or eliminated compared to a particle that expresses its native fiber, wherein:

the adenovirus (Ad) particle, except for the fiber, is from a subgroup C adenovirus; and

the fiber comprises fiber from Ad37, whereby HSP interaction is reduced.

26. (Original) A composition formulated for administration to a subject comprising a particle of claim 1.

27. (Original) A composition of claim 26 formulated for intramuscular, IV or parenteral administration.

28. (Currently Amended) A composition of claim 26 wherein the composition is formulated as a vaccine for stimulating CD8+ T cells in the subject.

29. (Withdrawn) An immunotherapeutic method, comprising administering a composition of claim 26 to a subject.

30. (Withdrawn) A method of delivering viral particles to dendritic cells, comprising:
contacting a composition with cells that comprise dendritic cells, whereby viral particles bind to dendritic cells, wherein the composition contains a viral particle of claim 1 or an adenovirus particle that comprises a fiber from Ad37 for targeting the particle to dendritic cells and the adenovirus (Ad) particle, except for the fiber, is from a subgroup C adenovirus; and
infusing the composition into a subject.

31. (Withdrawn) The method of claim 30, wherein the cells are removed from the subject prior to contacting.

32. (Withdrawn) The method of claim 30, wherein the cells comprise immune cells.

33. (Withdrawn) The method of claim 30, wherein the cells are bone marrow cells.

34. (Original) A nucleic acid molecule encoding a viral particle of claim 1.

35. (Original) The nucleic acid molecule of claim 34 that comprises an adenovirus vector.

36. (Original) The nucleic acid molecule of claim 34 further comprising heterologous nucleic acid.

37. (Original) A cell, comprising the nucleic acid molecule of claim 34.

38. (Original) The cell of claim 37 that is a dendritic cell.

39. (Original) A cell, comprising the nucleic acid molecule of claim 36.

40. (Original) The cell of claim 39 that is a dendritic cell.

41. (Withdrawn) A method of treatment, comprising administering a cell to a subject who has an immune cell disorder, cancer or an infection, wherein the cell is a cell of claim 38 or a dendritic cell containing an adenovirus particle that comprises a fiber from Ad37 for targeting the particle to dendritic cells and the adenovirus (Ad) particle, except for the fiber, is from a subgroup C adenovirus.

42. (Withdrawn) The method of claim 41, wherein the subject is infected with a pathogen, has a tumor, an inflammatory disorder, allergies, asthma or an autoimmune disease.

43. (Withdrawn) A method of targeting an adenovirus particle to dendritic cells, comprising replacing all or a portion of the native fiber of the adenovirus with an adenovirus subgroup D fiber or an adenovirus subgroup B fiber.

44. (Withdrawn) The method of claim 43, wherein: the adenovirus (Ad) particle, except for the fiber, is from a subgroup C adenovirus; and the subgroup D adenovirus is selected from the group consisting of adenovirus serotype 8, 9, 10, 13, 15, 17, 19a, 19p, 20, 22-30, 32, 33, 36, 37, 38, 39 and 42-49 and the subgroup B adenovirus is selected from the group consisting of adenovirus serotype 3, 7, 11, 14, 16, 21, 34, 35 and 50.

45. (Withdrawn) The method of claim 43, wherein the subgroup C adenovirus is selected from the group consisting of adenovirus serotype 1, 2, 5, and 6.

46. (Withdrawn) The method of claim 43, wherein the fiber is further modified to reduce any interaction with CAR.

47. (Withdrawn) The method of claim 46, wherein the fiber is further modified to reduce any interaction with heparin sulfate proteoglycans (HSP).

48. (Withdrawn) The method of claim 47, wherein the capsid includes further modifications that alter interaction with α_v integrin.

49. (New) The particle of claim 6, wherein the modification is selected from the group consisting of KO1 and KO12.

50. (New) The particle of claim 7, wherein the modification to the penton protein is a PD1 mutation.

51. (New) The nucleic acid molecule of claim 36, wherein the heterologous nucleic acid encodes an antigen or a product that alters dendritic cell activity.

52. (New) The nucleic acid molecule of claim 51, wherein the antigen is a tumor antigen or an antigen from a pathogen.